

FIG.1

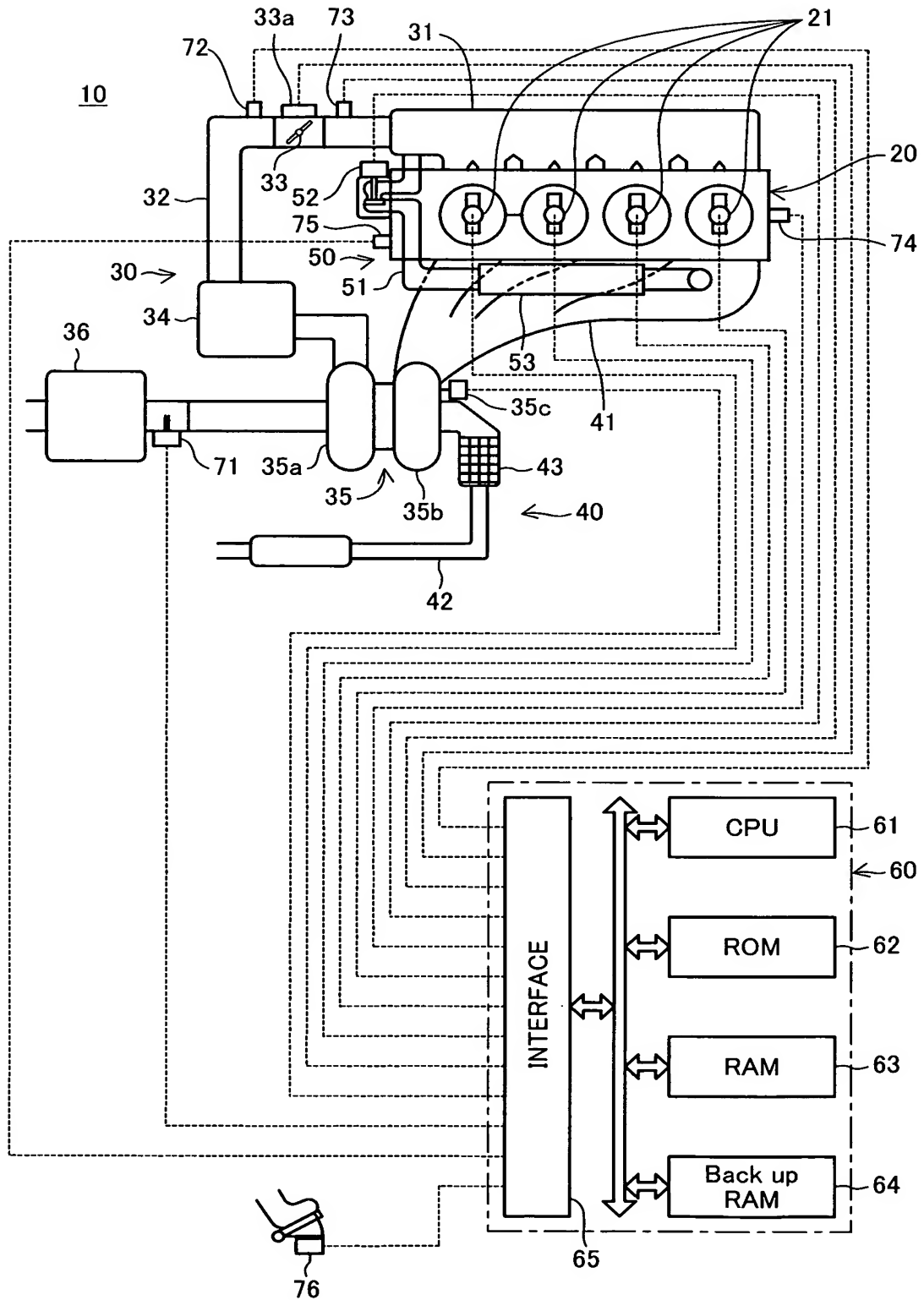


FIG. 2

The diagram illustrates a control system for an internal combustion engine, showing the flow of air and fuel, and the calculation of various parameters. Key components include:

- AIR FLOW METER (71):** Measures the air flow  $G_a$ .
- INTAKE PRESSURE SENSOR (73):** Measures the intake pressure  $P_{ex}$  and  $P_b$ .
- NEW-AIR TEMPERATURE SENSOR (72):** Measures the intake air temperature  $T_{bin}$ .
- THW WATER TEMPERATURE SENSOR (75):** Measures the water temperature  $T_{wallim}$ .
- Control Blocks (B1, B2, B3, B4, B5, B6, B8, B9, B10, B12, B13, B14, B15, B16):** Perform various calculations and control functions.
- Feedback Loops (BP1, BP2, BP3, BP5, BP6, BP7, BP8, BP9, BP10, BP11, BP12, BP13, BP14, BP15, BP16, BP17, BP18, BP19, BP20, BP21, BP22, BP23, BP24, BP25, BP26, BP27, BP28, BP29, BP30, BP31, BP32, BP33, BP34, BP35, BP36, BP37, BP38, BP39, BP40, BP41, BP42, BP43, BP44, BP45, BP46, BP47, BP48, BP49, BP50, BP51, BP52, BP53, BP54, BP55, BP56, BP57, BP58, BP59, BP60, BP61, BP62, BP63, BP64, BP65, BP66, BP67, BP68, BP69, BP70, BP71, BP72, BP73, BP74, BP75, BP76, BP77, BP78, BP79, BP80, BP81, BP82, BP83, BP84, BP85, BP86, BP87, BP88, BP89, BP90, BP91, BP92, BP93, BP94, BP95, BP96, BP97, BP98, BP99, BP100):** Provide feedback for the control system.

The diagram shows the flow of air and fuel, and the calculation of various parameters, including the air flow  $G_a$ , the intake pressure  $P_{ex}$  and  $P_b$ , the intake air temperature  $T_{bin}$ , the water temperature  $T_{wallim}$ , and the various control functions performed by the control blocks.

FIG.3

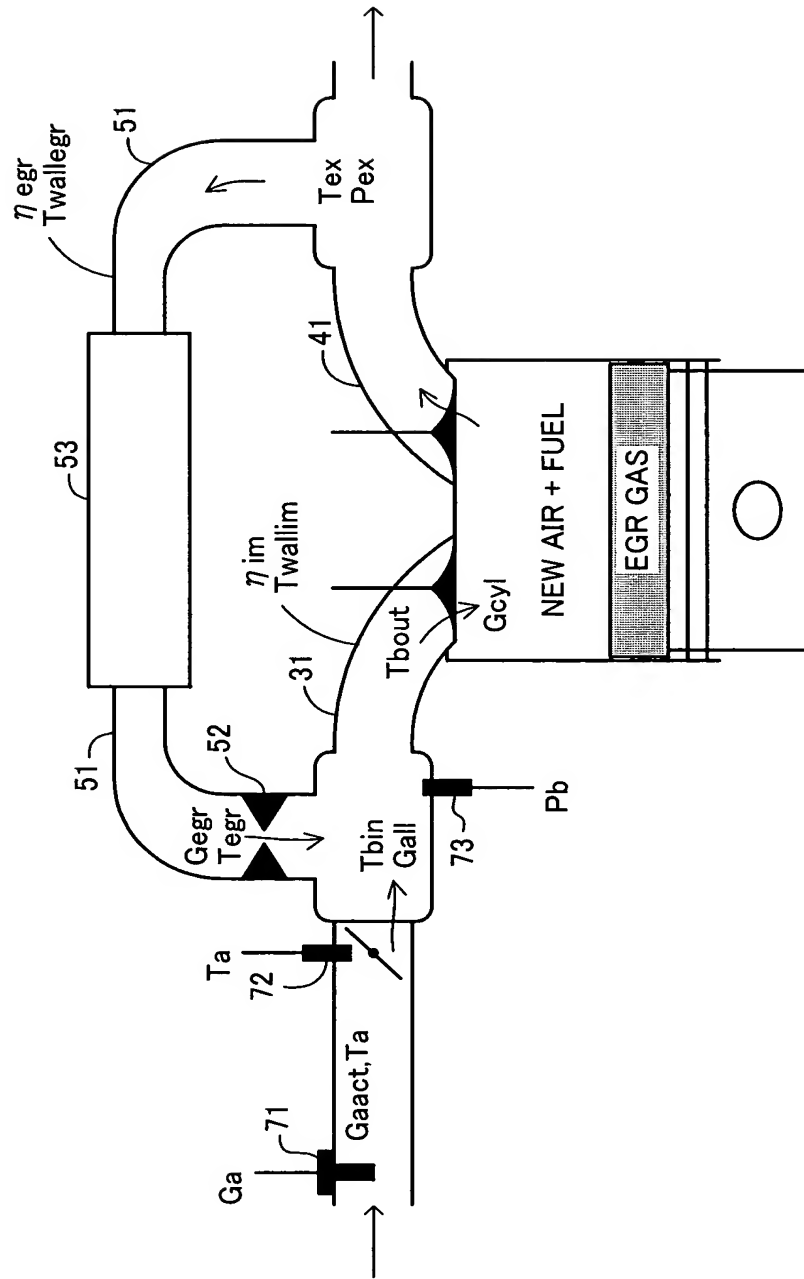


FIG.4

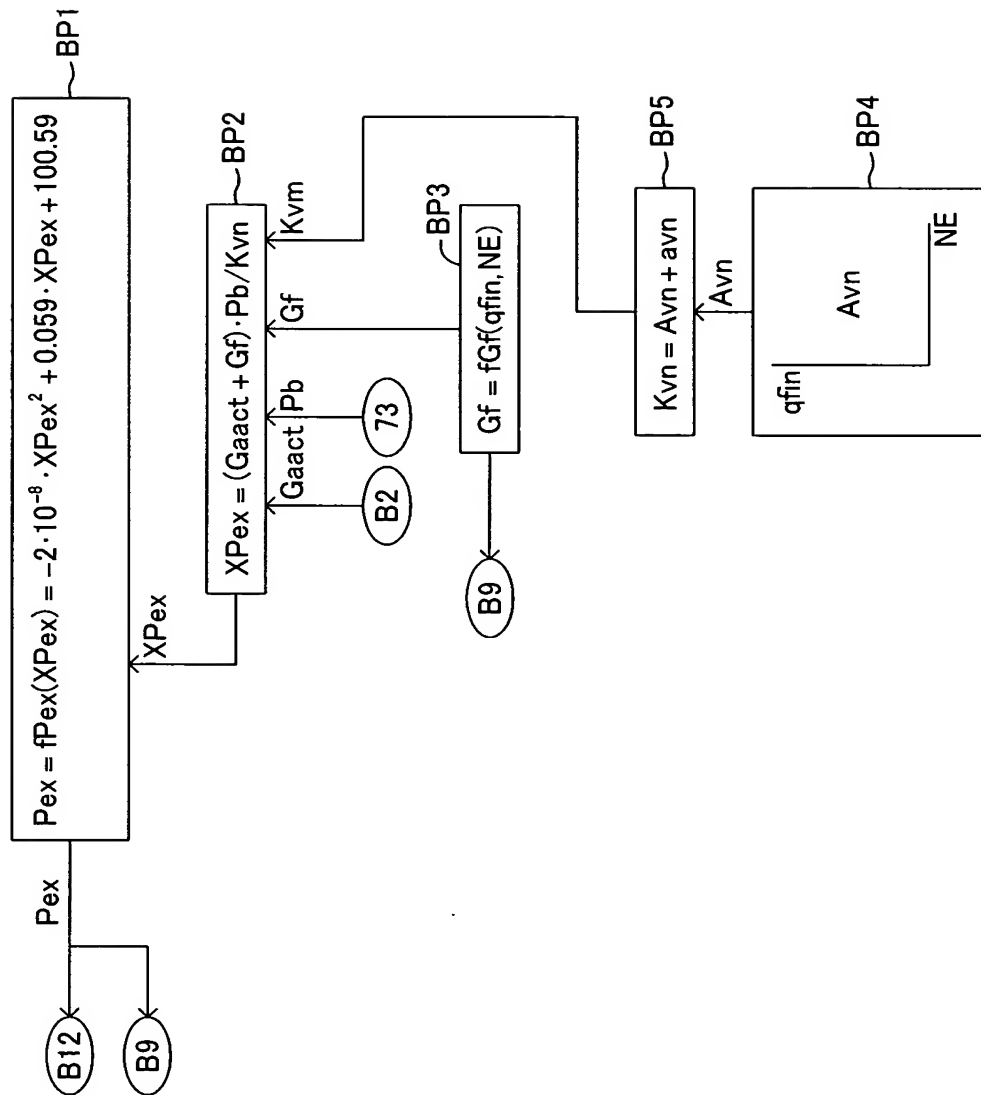
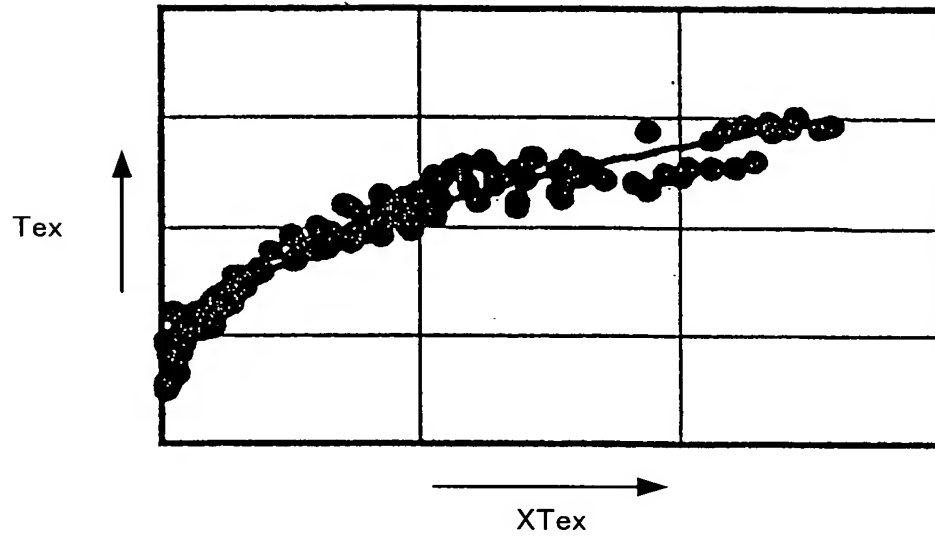
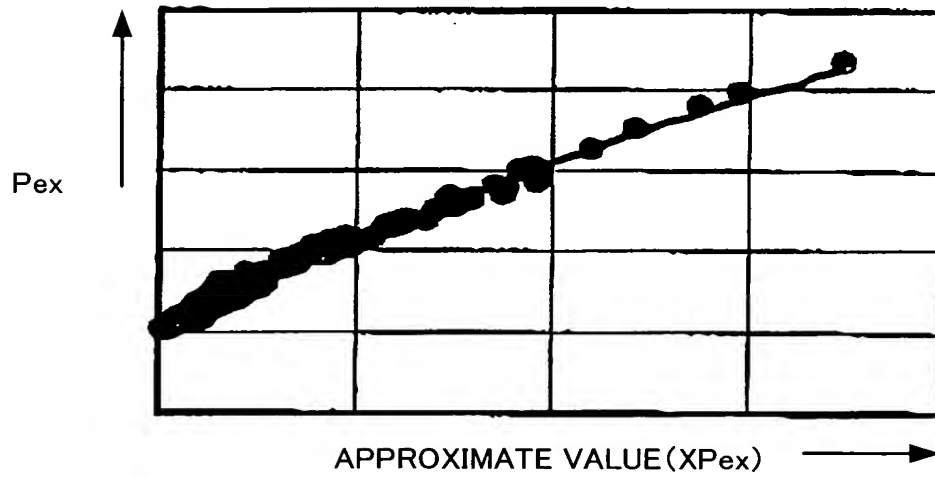


FIG.5



$$Tex = f_{Tex}(XTex) = 545.9 XTex^{0.3489}$$

FIG.6



$$Pex = f_{Pex}(XPex) = -2 \cdot 10^{-8} \cdot XPex^2 + 0.0059 \cdot XPex + 100.59$$

FIG.7

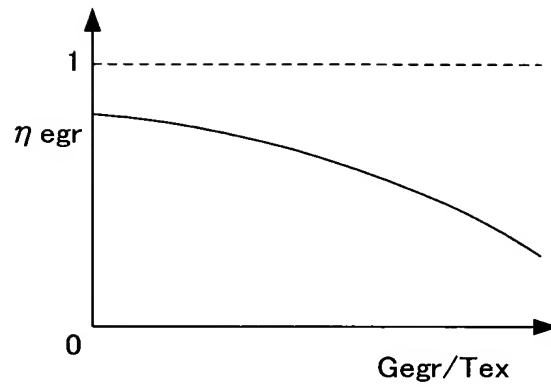


FIG.8

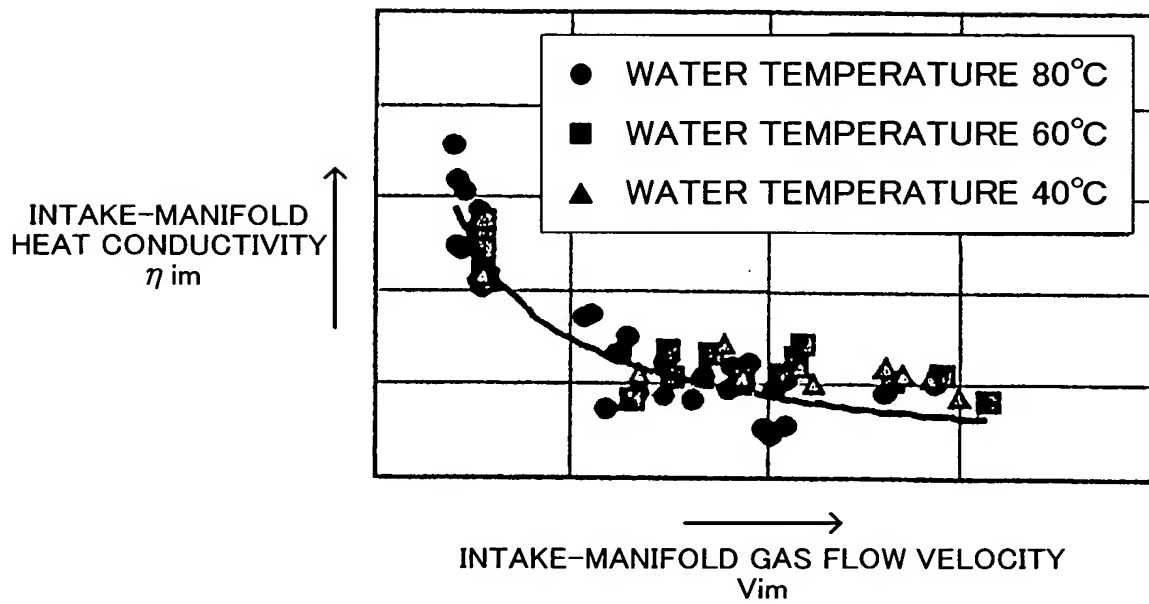


FIG.9

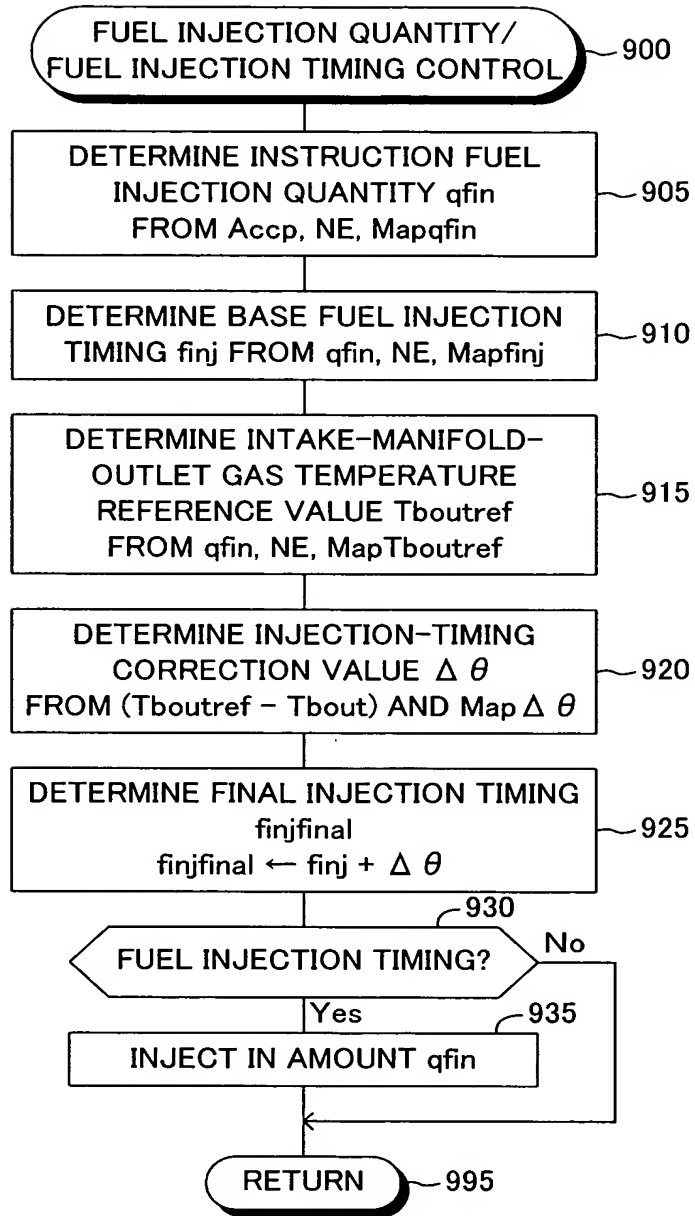


FIG.10

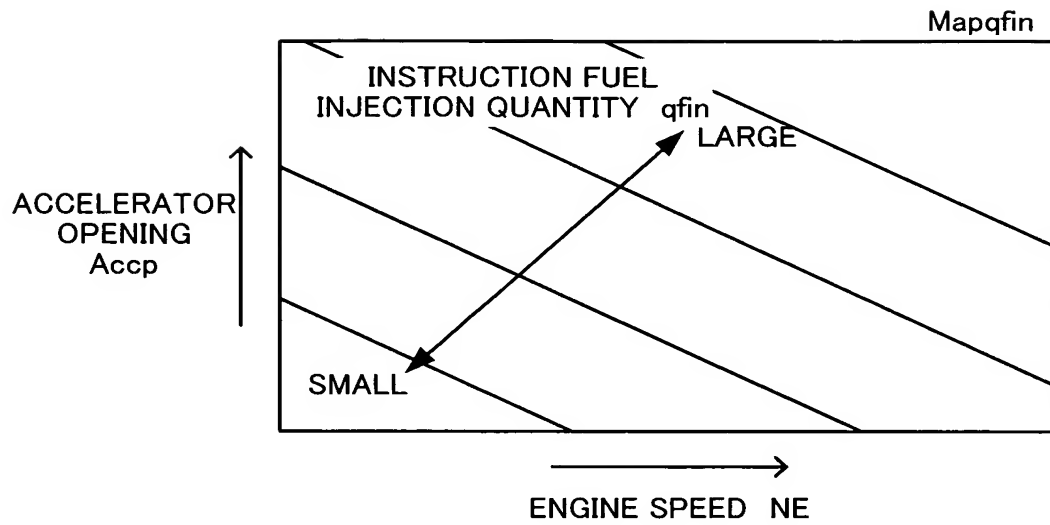


FIG.11

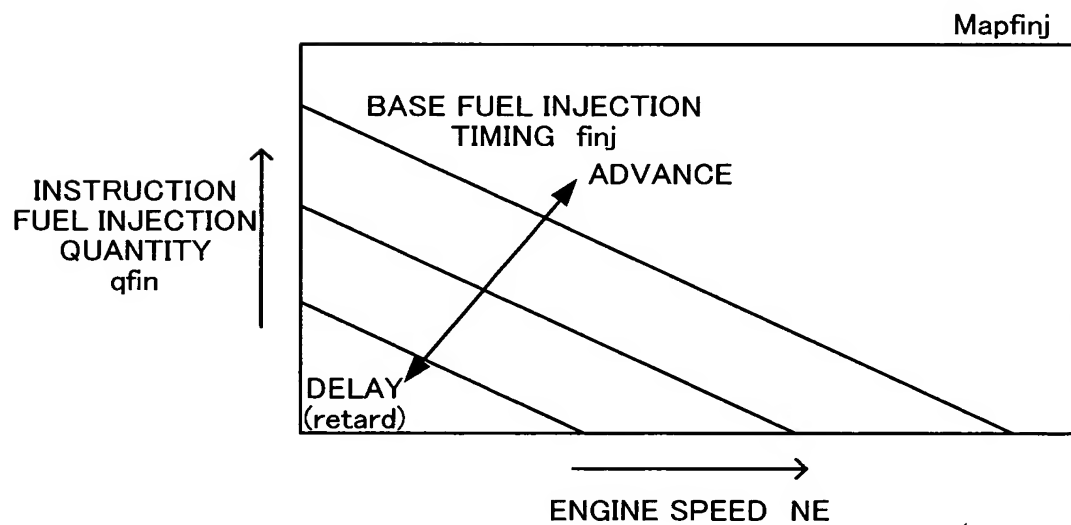




FIG.12

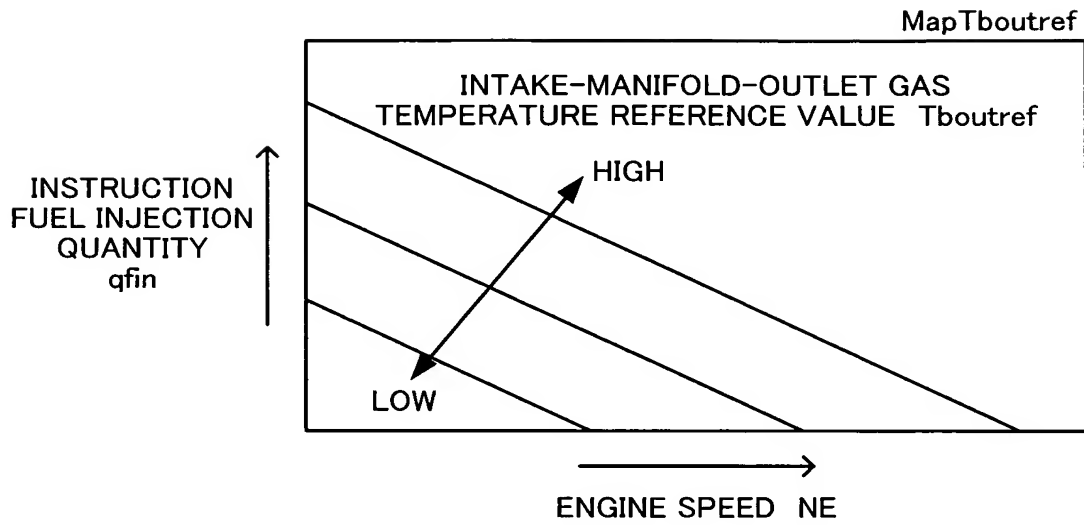


FIG.13

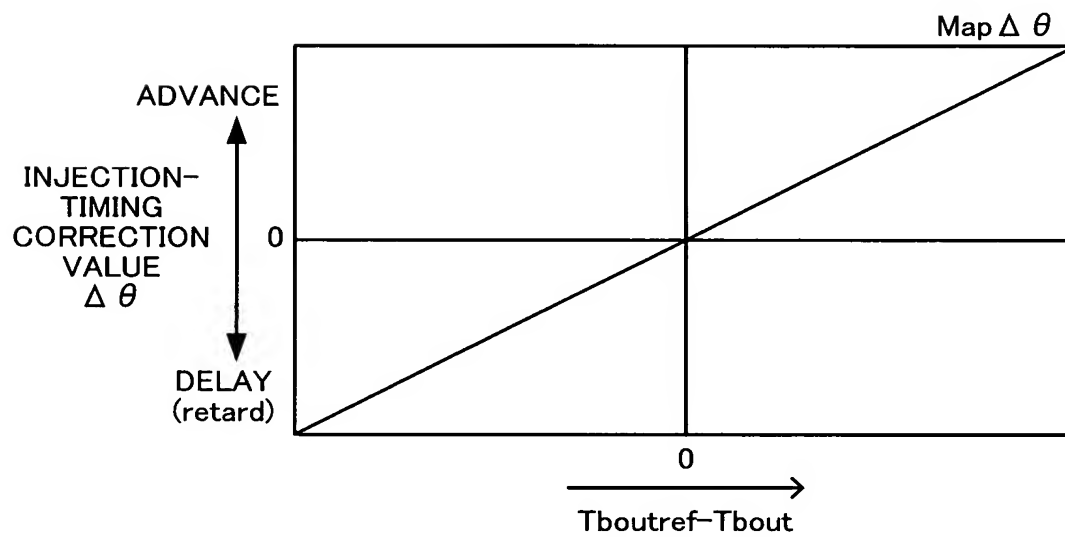


FIG.14

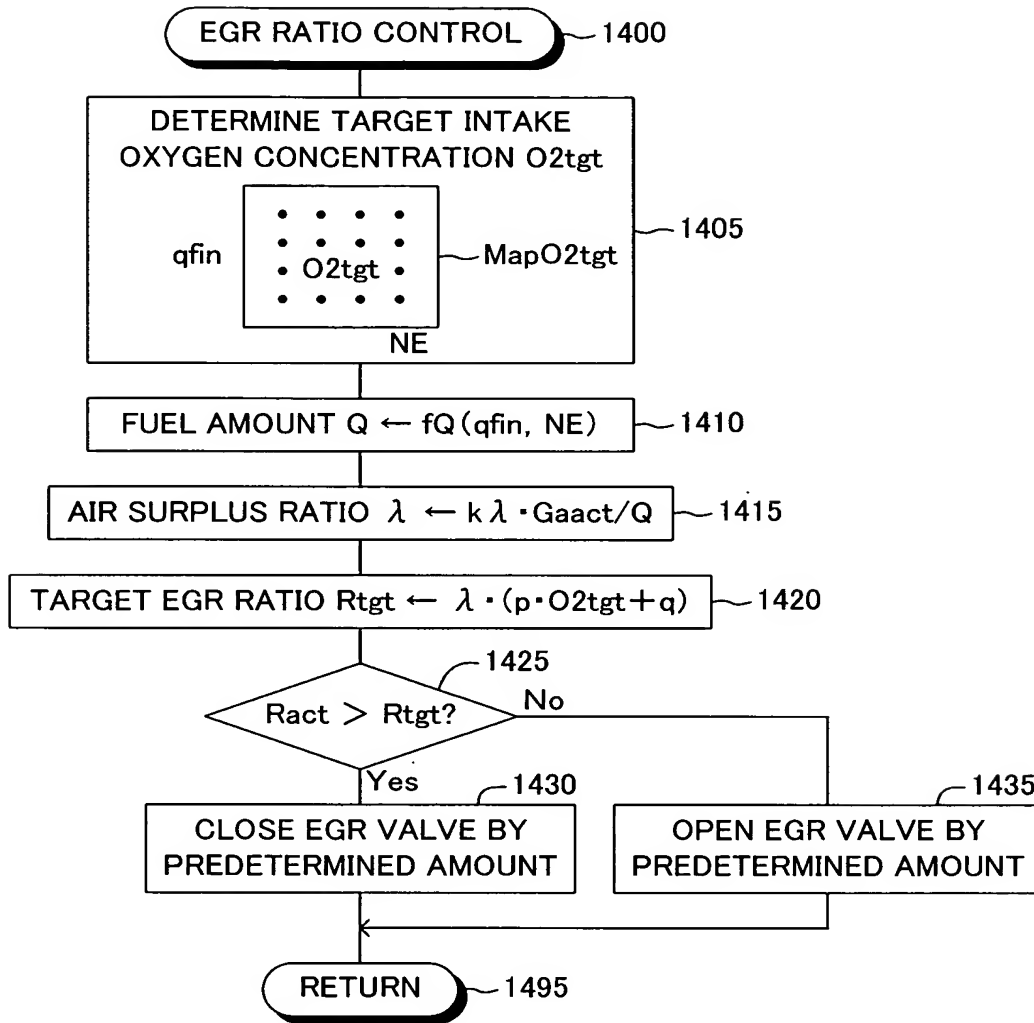


FIG.15

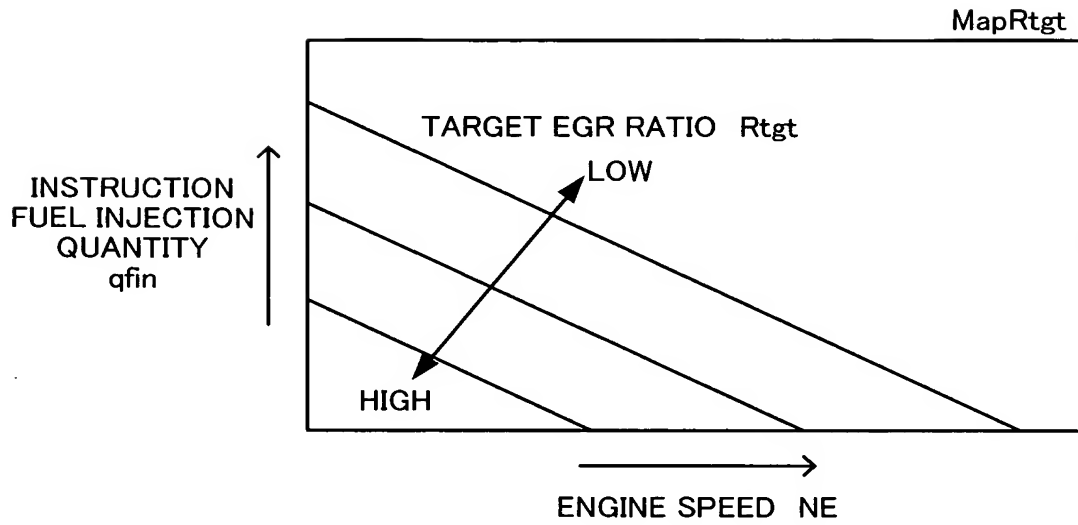


FIG.16

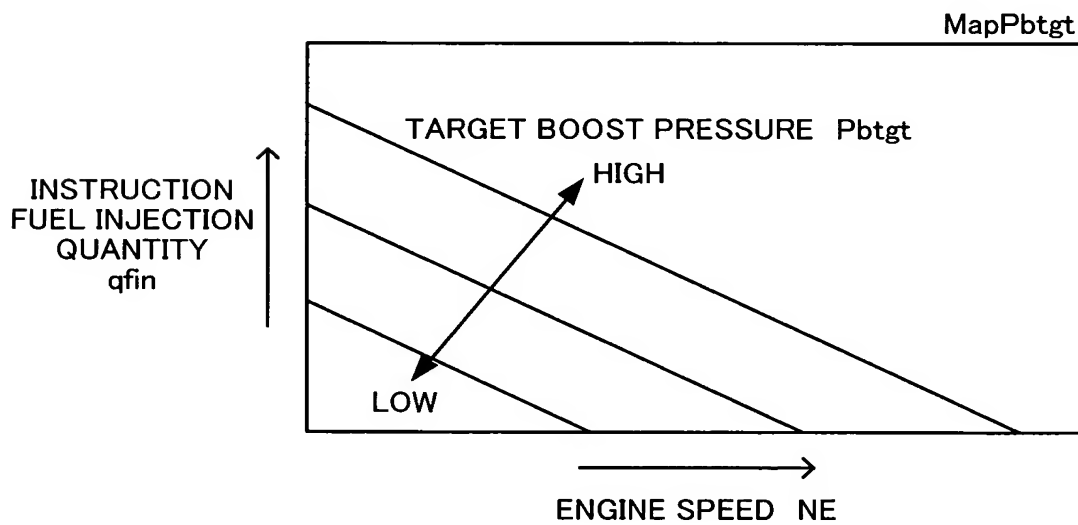


FIG.17

